

IN THE CLAIMS

Please substitute the following for pending claim 22:

22. (amended) An active noise canceling system comprising:

a sound generator, responsive to drive signals applied thereto, for generating an anti-noise field;

a noise cancellation processor, for generating the drive signals to the sound generator;

a first sound sensor disposed within said anti-noise field to generate a residual signal indicative of the sum of ambient sounds and anti-noise impinging on the sensor, wherein said noise cancellation processor processes the residual signal to form a component of the anti-noise field; and

means for generating indicia of the level of ambient noise and responsively varying a transfer function of the system in response to said indicia of amplitude of ambient noise such that a gain of the transfer function of the system is decreased in response to a decrease in said indicia of amplitude of ambient noise, wherein the transfer function comprises a ratio of an output signal of the noise cancellation processor to at least the residual signal.

Please substitute the following for pending claim 27:

27. (amended) A method for increasing the stability of an active noise cancelling system comprising a noise cancellation circuit, a sound sensor and sound generator cooperating in a feedback loop, the feedback loop having an associated transfer function, the method including the steps of:

generating, in accordance with drive signals, an anti-noise field;

sensing the residual noise resulting from interaction of the anti-noise and ambient noise;

1 generating the drive signals in accordance with said sensed residual noise;

2 sensing ambient noise outside of the anti-noise field; and

3 feeding forward a first range of frequencies that includes at least the high  
4 frequency components of the ambient noise to effect feedforward cancellation thereof;

5 wherein a feedback signal, generated by the feedback loop that processes a  
6 second range of frequencies, is processed by a noise cancellation processor without  
7 affecting the transfer function of the noise cancellation processor to form a component  
8 of said anti-noise field with the transfer function comprising a ratio of an output signal of  
9 the noise cancellation processor to at least said sensed residual noise, and

10 wherein the first range of frequencies and the second range frequencies  
11 substantially overlap in a cancellation band below an enhancement frequency range.

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